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HORTICULTURE

— Illustrated —

ATIONAL EDITION | *Twice a Month* | DECEMBER 15, 1943

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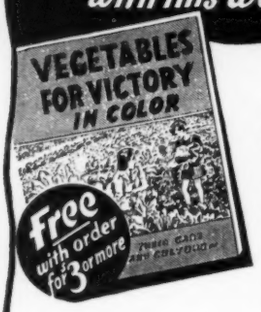

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READERS' QUESTIONS ANSWERED

How should I protect peonies in Winter?

Established plants need no Winter protection. New plantings should, however, be given several inches of loose mulch.

* * * *

How old must a spruce be to begin bearing cones?

The cone-bearing age of spruces varies in accordance with a number of environmental factors but, in most cases, the trees begin to seed between their fifteenth and twentieth years.

* * * *

How can I prevent the flower buds of gardenias and camellias from dropping before they open?

Flowering either of the plants in the ordinary window garden is not easy. However, plenty of sunlight, a night temperature of 60 to 70 degrees, avoidance of radiators and drafts and constantly moist air seem to be important factors.

* * * *

When is the best time to gas gladiolus corms with naphthalene to rid them of thrips?

It is generally considered safer to treat the corms with naphthalene fumes early in the Winter while they are still dormant. For best results the paper bags containing corms and naphthalene flakes should be placed in room temperature during the weeks of treatment to induce the flakes to volatilize. After treatment a lower storage temperature is preferable.

* * * *

Will my wisteria be harmed if not pruned for one year?

The life of the plant will not be endangered by failure to prune. However, the neglected plant may outgrow its allotted space and bury its flowers with young vegetative shoots. When pruning remove young growths and preserve the older, framework stems and branches.

* * * *

How shall I go about inducing the plants in a thickly set border of spiræs, forsythias and other Spring-blooming shrubs to take on a more natural habit of growth?

First dig out and destroy enough plants to leave the others amply spaced to admit sunlight to their bases. Then prune out about a third of the gaunt stems at ground level, either now or after flowering ceases next Spring. Repeat this same pruning technique each year, refraining from any top-pruning whatsoever. A mulch of manure or compost will also help to promote healthy growth and a thickening of the border in keeping with the original landscape composition.

Prizes for Garden Club Year Books

HORTICULTURE *offers a first prize of $50 for the best 1943-44 year book submitted by a garden club. It offers a second prize of $25, a third prize of $10 and three additional prizes of $5 each. This competition is restricted to individual clubs; it does not apply to federations. No attempt is made to define the word "best." The judges will consider each year book submitted from all angles. Comprehensiveness, originality, make-up, artistry —these and other points will be factors in determining the decisions of the judges. Size will not count; a club with a small year book will not be discriminated against. There is one reservation, however. Garden clubs which received prizes in 1943 will not be permitted to make entries in the 1944 competition. Year books to be entered in this competition must reach the office of* Horticulture, *300 Massachusetts Avenue, Boston 15, Mass., on or before October 1, 1944.*

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Garden Work to do NOW

A TWICE-A-MONTH GUIDE

KEEP the Christmas pot plants away from heating devices and water them carefully.

THE CHRISTMAS cactus should not be watered too heavily during the period when its flower buds are forming.

TRAFFIC over the lawn during the Winter should be avoided. Even though the soil be frozen it will injure the grass.

ORDERS for seeds should be placed early. Although, there are no serious shortages of seeds, the seed merchants have a labor problem.

ORDERS for rose plants for Spring delivery should be placed promptly because their production has been cut and the demand for them is brisk.

ALL NEW plantings of even the hardiest kinds of flower garden plants will be benefited by a protective mulch, preferably before the ground freezes solid.

DORMANT gloxinia corms can be stored without shriveling by carefully removing them from the soil and placing them in boxes of sand or dry peat moss.

CLUMPS of tarragon and sage dug from the garden after freezing and potted will grow well during the Winter in a sunny window at not too high a temperature.

A LAVENDER plant potted now and kept in a cool place until early February and then moved to ordinary room temperature can be brought into flower about Easter.

IF POSSIBLE, delay pruning of deciduous trees and shrubs until late Winter or Spring. In Spring Winter-injured branches can be detected and pruning wounds will be able to start healing almost at once.

WHILE the memory of the 1943 vegetable garden is still fresh, make a note of those crops which were over-produced and those of which too little was grown. Also, plan for more late-maturing crops this coming year.

USE DISCARDED evergreen material from Christmas decorations for Winter covering in the garden, even to dismembering the Christmas tree for the purpose. Christmas trees are excellent for protecting rhododendrons.

BE ON the lookout during the Winter for tomato stakes, bean poles and other types of plant supports or crutches for use next Summer. Report has it that these items will not be readily available commercially next Spring.

DO NOT water amaryllis bulbs heavily or regularly until the flower buds appear at the end of the resting period. After that the pots may be placed in a warm, light place and watering increased according to the requirements of the plant.

DAHLIAS which are being stored in the house cellar will benefit if kept undivided, with any soil which may have adhered to them at digging time left undisturbed. Dry peat moss or torn newsprint will make good packing material at this stage.

MAKE sure that the compost pile is topped-off with soil or a type of vegetable waste which will not discharge spores of common plant diseases into the air during warm, wet periods in Spring. Diseased waste should be completely buried in the heap.

PUT OFF pruning evergreens or spraying them with oil preparations until after the Winter has passed. An evergreen pruned now will not only be unsightly at a time when it should appear at its best, but it will also suffer for lack of the removed foliage.

THE WAX plant (Hoya carnosa) will thrive best as a Winter foliage plant if kept in a window facing away from the afternoon sun. The old flower stems should not be pruned away, since they are capable of bearing successive crops of Summer and Autumn blooms.

ONE IMPORTANT point to keep in mind when making up a seed order, is to select varieties known to grow well in the neighborhood in which they are to be planted. Garden magazine reports of novelty trials furnish this type of information about newly introduced kinds.

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Left to right, seated: Mrs. Clark, Charles Downing, Emily Clark, Marshall P. Wilder, Grace Wilder and Mrs. Ellwanger. Left to right, standing: Mrs. Downing, James W. Clark, Mrs. Wilder, Patrick Barry and George Ellwanger.

Horticulturists Who Made History

RICHARDSON WRIGHT recently presented to the Massachusetts Horticultural Society a remarkable photograph taken in 1870, showing a group of horticulturists who had a prominent part in making horticultural history in the United States. The picture was made at the time the group was preparing for a trip to California to view the agricultural and horticultural resources of that state.

Marshall P. Wilder, who has a place in the center of the group, was a famous Boston merchant, for many years president of the Massachusetts Horticultural Society, and at one time president of the American Pomological Society. He owned a large estate in a Boston suburb and is said to have no fewer than 1000 different varieties of pear trees in his orchards.

Charles Downing was co-author and editor of numerous editions of "The Fruit and Fruit Trees of America." His initials, "C. D.," will be found attached to many horticultural articles of his time. Patrick Barry and George Ellwanger were famous Rochester, N. Y., nurserymen, written about by Fletcher Steele in *Horticulture*, December 1. James M. Clark was a member of the Massachusetts Horticultural Society and interested in various horticultural pursuits.

DECEMBER 15, 1943 VOL. XXI. NO. 22

HORTICULTURE

Better Gardens Make Better Homes

ROBBING LAND OF ITS PRECIOUS LOAM

NOTE—*Conservation, like charity, may well begin at home, or at least in one's home town, yet the robbing of soil by contractors and others is going on constantly in thousands of locations. It would be well if everyone interested in this subject would ascertain if his city or town has laws or ordinances governing this matter. The whole question, which is highly important but seldom thought about, is discussed in the following article.*

THE other day I read a report in an English magazine stating that the antiquarians in the north of England were again tearing their hair over a resumption of destructive inroads on what they consider to be a national monument. It seems that there is a famous Roman wall in that part of the world, and every so often some builder backs his trucks up to it and starts tearing down the ancient Roman structure to cart the stones off for road building. This has happened often in the past, and apparently is again in progress.

What is it to us if a Roman wall disappears in the north of England, or the blood pressures of antiquarians go up at a time when there is a war to be won? What good will their jolly old wall be if the country goes down? Well, if we were British we would, of course, see it differently, for when those folks intone their poem about "There'll always be an England," they mean it, and they do not intend to have their ancient monuments torn down by Britishers as well as Jerries.

THERE is a lesson in that for us who stand by and unthinkingly watch some of our even older physical possessions destroyed in the course of this thing we call progress. Every time we stand by and watch a farm stripped of its top soil to fix up some newly graded area, we are watching the removal of one of our "Roman walls." Every time we see the material from a cellar hole or other excavation spread out over good top soil and it, in turn, enriched on top with a few inches of soil robbed from some farm, we are looking in on the destruction of something vital.

Anyone with any engineering training at all, knows that the way to go at grading any surface which is going into lawn, or other planting area is to first strip and pile up the good top soil, then make the changes in grade and put the top soil back in place again. And if you buy a building lot or are handed a plot for a Victory garden in an area from which the top soil has been stripped for use elsewhere, you are being defrauded.

EVEN in the smallest operation, these same engineering practices should be followed. When you pick out a place for a rubbish dump you can often gain a few yards of good soil by first stripping the area. This idea should be followed on large community dumps but seldom is. Instead of that, we pile yards of stones and rubbish on good soil which, hence, is lost forever. We cover this soil on useless areas but we strip dirt from level land capable of crop and garden use.

Left in place, level, workable soil, even if low in plant food and full of weed seeds, is capable of enrichment and cultivation. Hauled into a garden a yard or two at a time, it is often pretty poor stuff for spreading on a lawn, unless it is first properly composted with vegetable wastes or manure to enrich it and kill the weed seeds. It is well to know something in advance about so-called loam bought for lawn top dressing.

Along this line, I saw something the other day which may be a possible solution to part of this problem. In a public dump, I saw truck loads of fallen leaves, several truck loads of fair soil, truck loads of hay and other vegetable wastes and truck loads of sand from catch basins, and all left where they happened to be dropped.

Now just think what would happen if those materials were all spread in layers in one pile and forgotten for a year or two. Instead of rubbish we would have vast quantities of A-1 compost with not one minute's more expenditure of labor. Compost which, reinforced with commercial fertilizer, would be a far better product

AWARDS ANNOUNCED

Richardson Wright, awarded the George Robert White Medal of Honor.

The following awards are announced by the Massachusetts Horticultural Society:

The George Robert White Medal of Honor—Awarded to Richardson Wright of New York, N. Y.

The Thomas Roland Medal—Awarded to E. O. Orpet of Santa Barbara, Calif.

The Jackson Dawson Memorial Medal—Awarded to Wilfrid Wheeler of Hatchville, Mass.

The Albert C. Burrage Gold Cup for the most outstanding exhibit at any Boston show in the year 1943—Awarded to L. Sherman Adams.

than the surrounding residents are now buying to put on their lawns.

Here is a prime example of a thoughtless waste of natural resources which goes on right among us. Perhaps I am asking too much, but it seems to me that soil conservation is not something for the Tennessee Valley or the southwestern dust bowl alone, it is also a problem to be dealt with everywhere in suburban America.

—George Graves.

Boston, Mass.

Tomatoes and Petunias

ONE experiment in our garden this year was pleasing. We had no space to spare in the Victory garden for colorful little tomato pears and plums, but we wanted some of them, especially the little yellow, pear-shaped ones, and the seeds we had sown in flats in the sun-room were growing amazingly! So, we decided to take a strip one foot wide in front of the border facing southeast.

The trench was dug about 18 inches deep, and the stones and rubble taken away. Then we chopped up the sod and threw it upside down along the bottom of the trench, sprinkled it with bone meal and Victory fertilizer and filled in the trench with loam and sifted compost.

This was in the cold and early Spring. The seedlings were transplanted just once into flats, and when they began to look spindling we mulched them with sifted wood ashes. They seemed to like this treatment, for the stems darkened and became more stocky.

In early June they were planted out, two to three feet apart, with blue balcony petunias between them. The lower shoots from tomato plants were kept nipped off. Cardboard collars kept away the cutworms.

Soon the blue petunias were in bloom and no one noticed the tomatoes except as foliage. But by late Summer they were rather tall and the branches dripped with clusters of tiny yellow pears and red, oblong plums, which we later preserved in lemon syrup with ginger.

One point in growing tomatoes and petunias is the delightful smell of the foliage when handled.

—Beatrice Haddrell.

Marblehead, Mass.

Two Little-Known Plants

CHRYSOPSIS mariana, commonly known as golden aster, is a very showy plant one to one and one-half feet high. The flowers, coming late in September, are aster-like, of a rich deep yellow and arranged in a simple corymb. The leaves are covered with a loose, silky down when young but often become smooth when old.

This is a good plant for the front of the herbaceous border, but it also makes a good pot plant. It is a true perennial but often blooms the first year from seed sown in November. It is a native of New York and Pennsylvania and southward near the coast.

Chrysopsis falcata, although a much more dwarf plant than C. mariana, is by no means to be despised. The flowers are pale yellow and leaves are crowded and somewhat recurved or scythe shaped. The height of the plant is four to ten inches. It is a plant well worthy a place in the rock garden especially if several are planted to form a mass effect. The flowers come early in September and the plant self sows freely. It is a native on Cape Cod and south to New Jersey on dry, sandy soil.

—Francis Lazenby.

Botanic Garden, Cambridge, Mass.

Lantanas in Winter

FOR all-season flowering plants, few excel the lantana. A native of a hot country, it revels in sun but will thrive outdoors with partial sun. Cuttings taken in August, and potted in small containers in a sunny window, will bear bright verbena-like blooms all Winter, if seed pods are kept picked. The dwarf varieties are more compact in growth and all are usually free from insects.

These same plants moved outdoors in Summer to porch box, tub or bed, will be a mass of color all Summer if not allowed to seed.

Although yellow and orange are the predominating colors, there is quite a variety of colors and combinations including pink and white. For a spot of color or a showy bed try lantana.

—A. B. Turner.

Wayne, N. Y.

Heavy Corn Borer Damage

THE severe damage caused by the European corn borer in 1943 in many sections of the country has led to renewed interest in control measures and speculation on the amount of injury that may be expected in 1944.

Control of corn borer may be obtained to some extent by adjustment of sweet corn planting dates to avoid maturity during periods of heavy infestation or by the use of insecticides. Careful disposal of crop remnants is also helpful but cannot be relied upon when infestations as heavy as those of 1943 are present. The effectiveness of insecticides depends upon killing the newly hatched borers before they have time to penetrate into the plant beyond reach. Four applications at five-day intervals, starting soon after the first borer eggs have hatched, are generally required for effective control. Dusts containing nicotine and rotenone have given good results. It appears certain that suitable materials will be available for corn borer control in 1944 and that their proper use should be both practical and profitable.

"—YOU NEED ANY HELP?"

GROWING DWARF TREES AS A HOBBY—

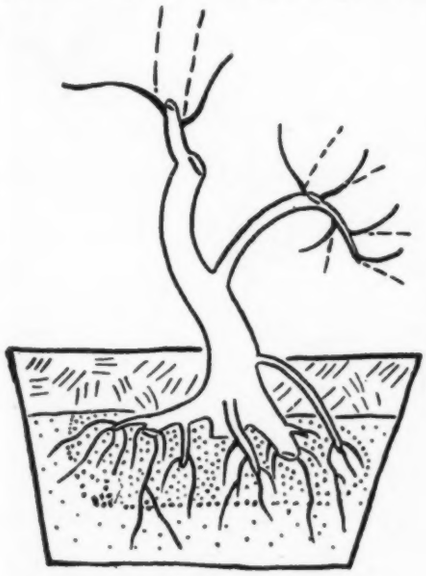
Patience plus the practices which are described below will ensure success

DWARF trees are usually grown in glazed bowls or pots. Those I use are Chinese celadon, Japanese porcelains, Persian and Hindu bowls, with no drainage holes, except for pines. The bowls should be plain in color—brown, black, dark blue, white, gray, green or terra cotta. Soil moisture is carefully regulated by watering and if a bowl becomes flooded in a rainstorm, I tip it on one side to drain for several hours.

The size of the tree is optional, depending on the material available. It may vary from a few inches to two or three feet in very old specimens, depending upon the skill of the grower. A good shape is more important than small size, and it should be patterned after old, normal trees—straight, bent, gnarled, or hanging over the pot like a storm-beaten tree on a cliff.

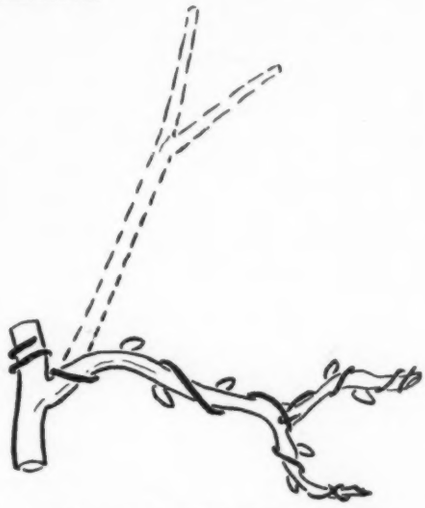
Almost any species of tree may be dwarfed, although some are unsuitable because of rank growth or large leaves. Oaks, elms, maples, gingko, fruit trees, woody shrubs, conifers or broad-leaved evergreens, woody vines such as ivy, woodbine, wistaria and grape can be trained. Many tropical trees have such a thick cortex in relation to the actual wood, that it is impossible to wire and shape any but very young shoots.

Sources of material are many and varied. Most of my trees have been found growing under unfavorable conditions—in hedges, on rubbish heaps, in gravel pits, heavily shaded woodland, or as neglected and pot-bound plants in old greenhouses. Old trees stunted by their environment can be transplanted into the garden, and after careful cultivation for a season or two, root pruned and potted. Often the original root system is too weak and scant to survive potting directly and they must be treated as cuttings in a rooting medium. Sometimes, gnarled branches may be layered, grafted on a young stock or rooted in sand. The most common source is seedlings and young trees.



Broken lines and shortened roots indicate method of pruning before potting.

The best time to dig up a tree is in the Spring, as soon as the ground has thawed and while it is still dormant. After the soil has been carefully removed, the roots may be pruned. If there is a well-established root system, the tap root may be completely removed; otherwise, it should be shortened to the highest clumps of side roots. Large side roots, too, may be cut back to a large branch near the trunk. Unwanted branches may be removed at this time. Old, short branches should not be disturbed.



Avoid contact with buds when wiring a branch into any desired position.

A shallow clay pot just large enough to hold the root system should be used. A good soil mixture is one part leaf mold, one part garden soil, three parts sand; well screened and dry. After a thorough soaking, the pot should be tapped at the bottom to settle the soil, then plunged out-of-doors in soil and kept well watered, or else kept in a very cool place. Top growth will not start until new roots have been established.

When new growth has started, all undesired shoots should be removed. Only the new shoots should be wired carefully and bent to the desired shape. This is best done when the plant is slightly wilted. Older branches should not be wired until the budding season the following year. New shoots will retain their shape after three or four weeks, but older branches may require wiring for several years.

When buds begin to swell the second season, the tree can be repotted in a soil with only one or two parts of sand. If it is well established, long slender roots may be cut back at this time. Not more than one-fourth of the soil should be removed. The last year's growth can be pruned to two or three buds and new shoots pinched back to encourage branching. Further wiring may be necessary as the outline of the tree begins to fill out.

Matured tree in permanent shallow container.

Weak liquid manure may be given occasionally as for ordinary pot plants. As the tree grows older its growth rate slows down markedly, usually the third year.

In caring for old, established trees, the great problem is to stimulate the formation of young feeding roots. This is best done by lightly pruning a part of the root system at a time at intervals of several weeks in the Spring. Long, slender roots on the outside of the soil mass can be pinched or cut back easily, the surface soil being removed and replaced with fresh soil.

Heavy feeders such as elms, maples, cherries, apples or plums should be repotted every Spring and about one-third of the soil removed at the sides and on the bottom. Pruning of the branches is also necessary in the Spring.

No dwarfed tree is permanently stunted. If unpotted and set out in a garden, "bonsai" will begin to revert to normal growth at once. Constant pruning and wiring must be done, especially with younger trees, to a lesser degree with very old trees. Blossoms and fruits will be less abundant, but of normal size. Incidentally, "bonsai" means a plant in a bowl or dish.

Abundant light, but not direct noonday sun, should be given during the growing season. This encourages short stubby branches and thick foliage.

In the Winter, hardy material should be protected from freezing by storing in a deep coldframe or in a very cool place.

—William Chester Sherman.
Ann Arbor, Mich.

Rambling Observations of a Roving Gardener

I RECENTLY picked up a copy of Edward H. Falkner's "Ploughman's Folly"—the book which has the armchair farming fraternity by the ears at the moment. The result was that I spent most of the week-end thinking about plowing and crop raising by various methods.

Everyone knows by now that Falkner's thesis is that the moldboard plow—dear to the heart of Thomas Jefferson—is the enemy of the soil. The author relates his own experience in revolting against the restrictions of conventional agriculture and raising crops by the simple process of discing down heavy stands of green cover crops in Spring, and planting amid the rubbish. His idea seems to be to have lots of rotting green organic matter in the upper few inches of the soil. Also, he believes in not loosening the earth but rather in compacting it to bring the moisture up from down below easily. In his system the rotting material is not placed beneath the plants or the seeds.

AS FOR Falkner's book, I am sympathetic with his point of view and have followed somewhat the same practices independently in my own small garden. However, I find that this crusading author is rather lame in his explanations of why or how his methods work. He does not seem able to explain why he does not have to buy lime and fertilizer, or why his plants are not bothered by pests, and so on.

So, let me suggest that when you read "Ploughman's Folly"—and you should read it—you should also have along a copy of Sir Albert Howard's "Agricultural Testament." Sir Albert has, I think, a better understanding of the value of humus, of the importance of soil aëration, the lack of pests on culturally happy plants and related subjects. He also, I feel, states his case better than does Falkner. For instance, Sir Albert tells how a hard subsurface layer, like a plow sole, can sometimes form where no plowing has taken place. He also has a nice appreciation for those hard-working symbionts—the mycorrhiza.

"PLOUGHMAN'S Folly" is considered to be spectacular, but if one is looking for something really startling on the subject of non-plowing he should get a copy of the August, 1943, issue of *Soil Conservation* and read what a Virginia dairyman named Arnold G. Ingham had to say about farming without the plow. According to Mr. Ingham, the cattle got bigger and produce more milk with a lot less work, all because he has stopped plowing and uses other methods of handling his formerly eroded land.

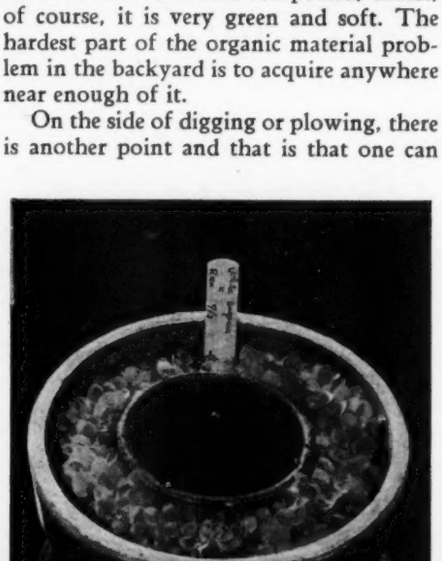
Further confirmation of some of Mr. Falkner's ideas are to be found in recent issues of the British *Gardeners' Chronicle* in communications which argue for the non-plowing of light soils comparable to many of those found in parts of New England.

To round out the picture, anyone who is really interested should read the other side of the story to be had in recent issues of the magazine *Better Crops With Plant Food*, in which William Albrecht of the University of Missouri points out that while too much plowing may have taken place and the wrong kind of plowing may have been done, plowing is not yet an outworn art.

Where does all this challenging of theory and practice and messianic shouting of opinion leave us little fellows who farm in our backyards? As far as I can determine, we should continue to do as we have agreed in many a *Horticulture* article, that is, to shove in all the organic matter our soils will take, but not to bury it deep in an undecomposed condition to rob growing plants of food and moisture. We should keep the organic matter near the top of the soil, in fact, right on top as mulch in the case of dead, dry plant wastes.

If one is planning to mix plant wastes into the soil and then to plant right away, the stuff should be first composted, unless, of course, it is very green and soft. The hardest part of the organic material problem in the backyard is to acquire anywhere near enough of it.

On the side of digging or plowing, there is another point and that is that one can sometimes fluff his garden soil up too much when he turns it over in the Spring with the result that if a dry spell comes along and the soil is not re-compacted, poor seed germination results. This is one of the bad results which can follow the use, or rather mis-use, of the rototiller on light soil in a dry Spring. After using such a tool one cannot safely plant until after a series of heavy rains or very heavy rolling. I suspect, too, that there is a sound argument against too deep hoeing and cultivating of growing crops mixed up somewhere in this same discussion.



A satisfactory way of starting seeds in pots indoors.

HOWEVER, anyone who has his land plowed can try Mr. Falkner's ideas by simply having his crop of Winter rye cut into the surface by a disc harrow rather than turned upside down by a plow. There is nothing very new about this idea. As long as I can remember, I have seen grain crops planted in cut-off corn fields after no other preparation than discing.

Also, it is an old New England custom to disc in cover crops of millet and buckwheat in Summer. The chief benefit from all this ado arising from the back-to-nature revolt against conventional and would-be scientific methods of soil management may be that all of us will be set thinking about the fundamental care and improvement of our soil.

I RECENTLY spent an entertaining hour with Professor W. D. Holley of the University of New Hampshire discussing house plants. Professor Holley has some very interesting ideas. When sowing seeds indoors, he makes use of the well-known fact that water works its way out through the wall of a porous clay pot in a horizontal direction. As he sows his seeds, he fills a pot with sand and plunges a smaller pot at the center of the sand surface. By stopping up the drainage hole to make the smaller pot act as a water reservoir, he provides moisture that can work its way slowly out through the porous wall into the sand to supply the water requirements of the young seedlings.

On sunny days, when the air is dry and the temperature is relatively high, evaporation and transpiration keep the system in balance. However, during warm, dull, or rainy periods more water can be present in the sand than is good for the seedlings.

At such times, Professor Holley refrains from replenishing the water supply until a betterment in atmospheric conditions demands the addition of more moisture. In the accompanying illustration some of Professor Holley's hybrid begonia seedlings are shown growing in pure sand moistened by water placed in the central pot.

WHY NOT HAVE THE BEST IN LETTUCE?—

The writer of this article has tested many different kinds but much, of course, must depend on the gardener's preference

REAL success with any crop is dependent largely on variety, and lettuce is no exception to this rule, no matter whether it be grown by the commercial grower, the amateur or Victory gardener.

Lettuce varieties have undergone great changes in the past 25 years. We have seen the public demand for Iceberg lettuce, largely grown in the West, sweep away an industry based on local varieties that once made Boston and its environs the center of a prosperous market garden group. Apparently, now the swing is the other way and people are beginning to realize that food values in lettuce are better in the green and loose-leaf types, although the change is taking place slowly.

Variety has much to do with the lettuce season. Not long ago we thought that if we got one crop in the late Spring and early Summer that was all we could expect, but now we have lettuce from late April to November in southeastern New England without the use of greenhouses.

Lettuce varieties fall into several groups, and the value of these groups and the individual varieties in them must be understood in order to grow lettuce successfully.

First comes the New York or Iceberg type which is popular in our markets and which has made possible the shipment of lettuce from great distances. It must be remembered, however, that there are many strains or varieties of Iceberg lettuce. The New York Agricultural Experiment Station has produced a number of these strains and most of them go by numbers, such as New York 41 or 12 or 515. Then there is the Imperial group, and among more recent introductions one by the United States Department of Agriculture called Great Lakes. Then, also, there are special selections of these numbers and varieties, confusing the situation a good deal but developed to fit certain conditions or climates.

The Iceberg variety known as Imperial No. 44 seems to be one of the best for early planting, being started in the greenhouse or frame and set out-of-doors as soon as frost conditions permit. This crop can usually be harvested from mid-June to early July and comes early enough to escape the leaf burn which is the most difficult condition to overcome in Summer lettuce. No. 44 makes a head that is not too large for the type, but quality is largely determined by the weather conditions, a cold Spring making for coarse, tough lettuce.

Imperial No. 847, also a fine type of Iceberg, sometimes appears under the name of New York Ace. Its greatest fault is that it often grows too large and coarse, particularly on rich soil.

Great Lakes, the most recent introduction in this class, seems to have all the good points of the Iceberg type and none of its bad ones. It is good both early and late. It makes a medium-sized head, very firm but tender and excellent in color although not as white as the usual Iceberg. Apparently it is both an early and late. The seed of this variety is at present scarce.

Another of this group, a cross between Cos and Iceberg, is Cosberg, a very fine lettuce for the nearby and roadside market. This variety will apparently stand the hot sun of mid-Summer better than many of the Iceberg group.

The second group of lettuce varieties is that of the so-called butterhead type, characterized by a rather open head and light green or creamy yellow color. It is very high in quality, crisp and melting.

Heading this group is a variety known as Wayahead. It is an excellent variety to plant in frames early in the Spring. It combines wonderful appearance and good size with the highest quality of this group. Others of this type are May King, Big Boston and Tennis Ball. The last named is a good Summer variety where the nights are cool, but should be planted only in home gardens. Somewhere related to this group is an old variety known as Crisp-as-Ice, a very fine, strictly home garden, Summer lettuce. Mignonette is another variety for the home garden, small but high in quality and standing heat well.

The third group is that of the Cos or Romain type. These are good really hot weather varieties, as apparently they do not burn under our hot sun. As between the two varieties offered, Paris White or Trinon and Dark Green, there is not much to choose except that there is a difference in the color. They can be grown for at least nine months with the help of frames. These varieties are self-heading selections and they do not have to be tied to get perfect heads.

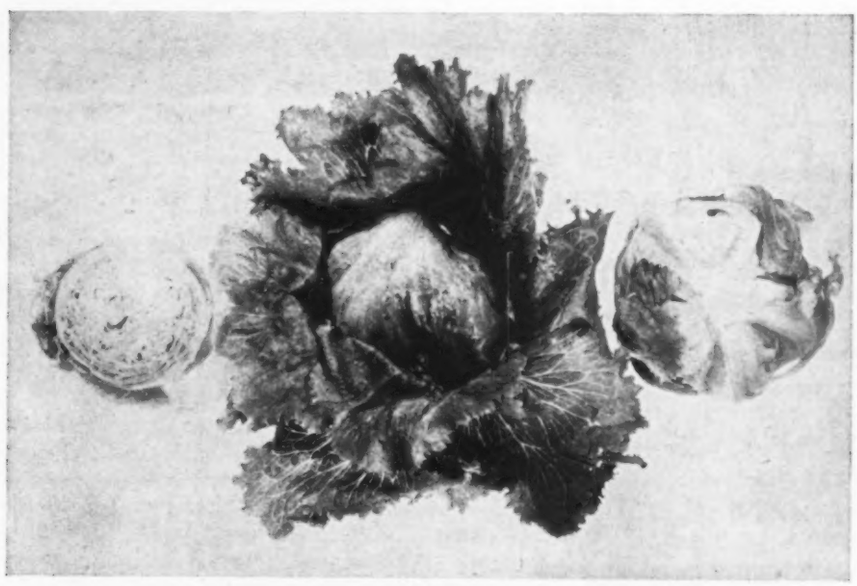
A newly introduced group of lettuce varieties, although mostly of old-time origin, has come on the market recently and for real sensation in quality and attractiveness, every garden lover should have them, for as yet they are strictly home garden lettuces. There are three of them, known as Matchless, Bibb and Oak Leaf. Matchless is the largest of the three and evidently has some Cos blood in it, although it is not as large or as leafy as Cos. Under good cultivation it tends to grow rather thick and heavy at the base. The leaves are pointed and dark green on the outside, while the inside is a beautiful shade of cream yellow and when cut open the combination gives a fine color to a salad. In quality it is unsurpassed.

Bibb has appeared in some of the midwestern markets and when produced in commercial quantities has commanded a price out of all proportions to its size. The plant is small, grows close to the ground and does not actually make a head but pinches up somewhat in the center. The leaves are a medium green and as the plant ages have a tendency to turn a bronze color. The quality is high.

Oak Leaf, another of these very high quality small varieties, is perhaps the most beautiful of all and its divided leaves make a very ornamental salad. However, the leaves are very tender and inclined to crush easily. Here again it is difficult to draw comparisons in quality; the whole group is excellent and well worth trying. You certainly will not find better quality in any other lettuce and it is ornamental.

—Wilfrid Wheeler.

Hatchville, Mass.



Great Lakes is a new lettuce which has been given the All-America award.

Readers' Letters to the Editor

More Large Acorns

DEAR EDITOR — Dorothy Biddle's account of the large Texas acorns (*Horticulture*, November 1), confirms a memory of my childhood. I was taken on a visit to a farm a few miles west of Springfield, Mo., and there picked up acorns that I remember as being as large as hen's eggs or as small lemons. As I have not seen such acorns since, however, nor heard of them, I had almost concluded that childhood memories glorified the reality in that as in other matters.

I do not find in Bailey's "Cyclopedia of Horticulture" a description of any oak having acorns as large as those in question, those of the bur or mossy-cup oak being about the largest.

—Paul R. Birge.

Silver Spring, Md.

Ways to Cook Soy Beans

DEAR EDITOR—So much has been written about soy beans for *Horticulture* that a recipe for cooking the dry soy beans may not be out of place. These beans seem to be difficult to make palatable but, cooked by this recipe, I learned that soy beans are good, indeed.

1 cup dry soy beans. Wash and soak in plenty of water over night. In the morning bring to a boil, drain, cover with fresh cold water and return to the fire. At this time add
4 small slices of salt pork,
1 can of tomato sauce or sieved tomatoes with a few grains of cayenne,
1 onion sliced,
1 tablespoon of molasses or brown sugar.
Salt and pepper to taste. Bear in mind that the cooking meat will partially salt the beans.

Cook slowly at least three hours, adding more tomato juice or water as needed.

Bacon or ham may be used in the place of the salt pork. The molasses or sugar is essential.

The same recipe is used for baked soy beans except that the salt pork is kept in a square with the rind scored. After being parboiled one hour, the beans, with the salt pork, are transferred to a baking dish and baked at low temperature for three hours, liquid being added, of course, when necessary.

People who cannot eat navy beans will find soy beans a good substitute.

—Lena Lothrop.

San Bernardino, Calif.

Big Oaks in New Jersey

DEAR EDITOR—After reading Dorothy Biddle's note on big acorns (*Horticulture*, November 1), I feel thankful that we do not have Texas oaks in New Jersey. Twenty odd years ago, when I began to clear woodland to extend my garden, I allowed several black and white oaks, then with trunks a foot or so in diameter, to remain in the belief that their shade would be welcomed both for my family and for the primroses I aspired to grow.

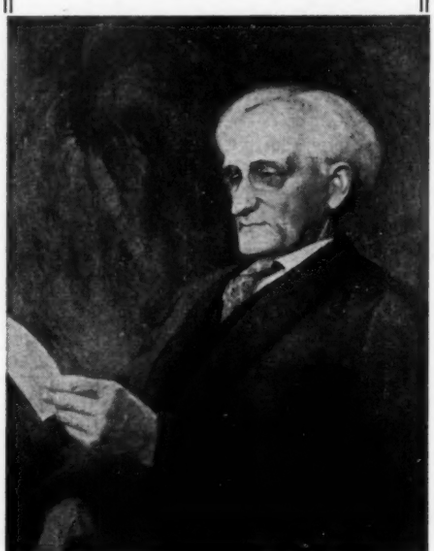
During the interim the trees have grown and grown and apparently have reached full maturity, for in recent years not only have they driven me to distraction by their tassels in the Spring and falling leaves in the Fall, but they now shed bushels of acorns.

The trees have been cleared of lower branches so that the lowest are 15-18 feet up, but even so, the shade they cast and the drip they cause is veritably hated by the various border plants that at one time thrived.

—T. A. Weston.

Hillsdale, N. J.

A New Bailey Portrait



A newly painted portrait of Liberty Hyde Bailey.

A portrait of Dr. Liberty Hyde Bailey, perhaps the most famous of living plant scientists in America, has been presented to Cornell University, Ithaca, N. Y., by a group of agricultural and horticultural associations. It was painted by Allen D. Cochran of Woodstock, N. Y. Although Dr. Bailey is nearly 86 years of age, he is still active and recently made a 6000-mile trip through Mexico in search of little-known palms. In 1935 he gave Cornell one of the largest private herbariums in the country and it is now known as the Bailey Hortorium.

A Good, Very Late Liatris

DEAR EDITOR — In Mr. Steffek's note on interesting gayfeathers in the October 1 *Horticulture*, he left out one of the most beautiful, or at any rate the very latest one to bloom, which is Liatris acidota. The liatris has never failed to bloom profusely for several years, beginning the third week in September and continuing for a good three weeks or longer, according to the weather. On October 6 this year it made a bright spot in the garden when there was little else in bloom except the various asters. All other liatris have long since past blooming. The plant here measures two feet high and the same in thickness and had 38 spikes of bloom. It is a very upright grower, with narrow, stiff foliage. I have never seen it listed, although it is a native of Texas and perfectly hardy. It certainly is one plant that should be better known, for it is easily increased by division in the Spring.

—Francis Lazenby.

Harvard Botanic Garden,
Cambridge, Mass.

About Coal Ashes and Lime

DEAR EDITOR—I am wondering if the article on coal ashes in the November 15 issue may not mislead some gardeners. Here in Ohio, we have been advocating the use of coal ashes for arid soils for a number of years. However, the use of lime is not necessary unless the soil is fairly acid and would normally demand the application of lime. With soils that are sweet, lime might be detrimental rather than beneficial.

Since hard coal is relatively unknown here, we use soft coal. With the better grades of soft coal, those from West Virginia and Kentucky, there seems to be no danger of toxic effects. The lower grades of soft coal are not safe for planting until at least one heavy rain has fallen. We recommend that they be put on the ground as they are taken out of the furnace. Then by Spring there is no danger.

On one occasion, I used a mixture of sifted West Virginia split soft coal ashes right out of the ash bed, and peat moss, in equal quantities. A two-inch layer of this mixture was put in the bottom of a cold-frame, well watered but not leached, and the seed of some 200 varieties of annual flowers sown. The results were excellent. Some readers might be interested in trying this plan with hard coal ashes and peat moss. I believe they will find they will have less trouble with damping off diseases than with their normal soil seed beds.

—Victor H. Ries.

Columbus, Ohio.

A GARDENING DIGEST

Beach Plums From Cuttings

W. L. DORAN and J. S. Bailey of the Massachusetts State College have determined that softwood cuttings of beach plums will root best if taken in early June and dusted with the root-inducing powder Hormodin I. All cuttings in their tests consisted of short side shoots, usually two to four inches long, entire and made with the basal ends cut at the base of the growth of the current year.

The cuttings were inserted in sand in an open bench in a greenhouse. The glass of the roof was whitened for shade, and cuttings were frequently but lightly watered. Ventilation was limited to that necessary in keeping the air temperatures down to about 90 degrees on sunny days, for with such soft cuttings, high relative humidity is more important. Duplicate lots of cuttings placed in a coldframe gave results which were "decidedly less good."

Dealing With Rose Canker

DR. L. H. MASSEY of Cornell University states in *The American Rose Magazine* that a full schedule for the control of rose canker should cover several points. To begin with, drainage, exposure and fertilization should be given careful attention to maintain the plants in a state of normally vigorous growth. All dead, dying and weak plants and plant parts should be removed from the garden promptly.

Insects and diseases should be controlled by systematic spraying and/or dusting. Also, extreme care should be taken to avoid injury to the stem, since even small breaks in the bark can permit disease entry. Care must also be taken in pruning and blossom-cutting to avoid leaving stubs, crushing the stems or doing any more damage to the plant than is absolutely necessary.

The Dutch Elm Disease

A CAREFUL analysis of the Dutch elm disease situation is given by Dr. Rex of New Jersey in recent issues of *The Shade Tree.*

Figures show that Federal and State funds expended over a decade amount to nearly 25 million dollars, approximately 19 millions being from WPA funds. Federal and State aid has been largely abrogated. Control now is mostly a problem of towns, villages and cities.

New Jersey experience indicates the importance of sickly or dead elm wood in the spread of the Dutch elm disease. During the earlier days numbers of affected trees were found on the East Orange watershed, near piles of elm wood. Substantially the same conditions were found in 1941 in an area between Raritan River and the River Road and 1942 in a ravine at Marksboro in Sussex County. Cut elm wood, broken limbs or diseased trees are centers for spread of the disease. A checking of wood piles in the Spring of 1943 showed 2,684 with no elm wood in them and 221 with elm wood. Rechecking later disclosed that of 103 piles, 75 had been burned, debarked or properly stored and 28 remained untouched, indicating the degree of public co-operation.

The fate of the elm trees in New Jersey is held as far from hopeless. The disease can be controlled within reasonable limits through tree sanitation, essentially the early and prompt disposal of weak or dead elm wood.

The above findings are in accord with experience in both Connecticut and New York State.

Simplifying the Flower Garden

ACCORDING to Lester Rowntree, simplifying the flower garden teaches many valuable lessons in the knack of giving plants a chance to introduce originality and individuality into the garden. Writing in *Golden Gardens,* she states that we must eliminate pampered pets and retain plants which will yield much in return for little. Old gardens and crumbling cemeteries are, she says, good places to get suggestions for occupants for liberated gardens.

Boiled down to essentials, the war-time flower garden consists of shrubs which provide color and cutting material, bulbs which need not be lifted and prefer to be left alone, and self-sowing annuals. In many gardens there is need to thin out old shrubs.

A Christmas Tree Quiz

What trees are used as Christmas trees?

Practically all needle-bearing evergreens are used for this purpose in various parts of the country depending on their availability. A fir is the best because it retains its needles well. The hemlock is the poorest.

What is the annual Christmas tree harvest?

About 12,000,000 trees are used for this purpose annually, on which the producers realize an average of 10 cents per tree, or $1,200,000. Foresters say that the Christmas tree harvest is not detrimental to the forests, as many of the young trees would lose their lives later in the struggle with their neighbors. Such thinning is often beneficial.

Is it possible to treat a Christmas tree to make it fireproof?

Probably not, although there is experimental evidence to prove that placing the cut stem of the Christmas tree in a weak solution of ammonium sulfate will render the plant fire-resistant. Ammonium sulfate being unavailable, soaking in water alone will probably prove as effective as any available treatment. The stem of the tree should be placed in a pail of water as soon after cutting as possible and kept soaking at all times right up until after Christmas.

Fires Cause Grass to Seed

WHATEVER bad results may come from the old practice of burning over grass lands during the dormant period, it appears that the practice stimulates the production of seed stalks. H. H. Biswell and Paul C. Lemon of the Appalachian Forest Experiment Station tell of their experience with native forage grasses. Writing in the *Journal of Forestry* they say that fires in late Spring and early Summer, after seasonal growth is well started, seem to stimulate seeding more than fires in Winter or early Spring.

Actual counts of seed stalks of six native grasses under three conditions, in close proximity, showed that medium-size clumps that were unburned did not produce any seed stalks, whereas similar clumps burned in later Winter averaged 25 stalks, and those burned in early Summer averaged 90 seed stalks per clump.

Unless these grass clumps are burned against next season, they do not produce stalks the following Summer. It is clear, therefore, that burning stimulates seed-stalk production for only one year. On areas unburned the previous year seed stalks are exceptionally rare.

Evergreen Leaves Important

P. J. KRAMER and T. H. Wetmore have reported in the *American Journal of Botany* that removing the leaves from broad-leaved evergreens in Autumn will, in most cases, prove fatal to the plants. An exception among six kinds observed at Durham, N. C., was elæagnus, two-thirds of the Autumn-defoliated plants of which survived.

Spring defoliation was not as harmful, with all plants surviving the following Winter in excellent condition but with some making less diameter growth than undefoliated plants. Apparently broad-leaved evergreens are dependent on the over-wintering leaves for carbohydrates. That the old leaves aid in supplying food in the Summer was shown by the reduced diameter growth of some of the Spring-defoliated plants.

Dr. McFarland and Fall Roses—

Choice kinds which he has found to be particularly desirable for home gardens

IF WE gave up the early Summer to the lordly hybrid perpetual roses, brilliant and fragrant, and to the species and climbing roses which then sing their whole song, and were content with the season's richness of these and the accompanying polyantha types, really picking off the buds of the hybrid teas before they showed color, having in mind what they would do for us in early Fall, I believe we would be quite rose-happy in October.

Of course I well know that no genuine rose crank like myself would have the nerve to do any such thing, just as I have not been able to pick off, as I should have done, the flowers and fruits on my little planting of Mastodon strawberries crowding the potted plants put in the ground. Who, indeed, can contentedly attempt to thwart nature!

But the roses come anyway, even if I do not deserve them. Late in the season I cut flowers from my plants of Will Rogers, as rich in depth of color as that humorist was in his deep humanity. Deep scarlet, almost black, are the many and crowded Fall petals of this rather flat open rose that was thin and poor and just ordinary red as it tried to do something in June. And the fragrance! It is real rose intensity, not in the least tobacco-ish.

The Doctor, another Fred Howard rose, is as rich in pink beauty and nearly as fragrant as are the dark-hued roses. They will seemingly spread and swell and will keep their clean pink elegance until the last petal falls. This rose, like Will Rogers, is "a poor doer" in the sense of heavy growth and much bloom, but each bloom of either rose is an event to be looked forward to and to thankfully enjoy. In fact, I think rose cranks ought to make a list of these plants of less intense character and vigor which give them exciting pleasure these Fall days.

Another California product has held a place of honor on the dining table at "Breeze Hill." It is the bright and happy Charlotte Armstrong. There is no excuse needed here about growth and bloom, for it has been doing well the whole season, and its Fall flowers have merely an increased intensity of deep pink color as well as an informality of form that adds to its high distinction.

So I am advising some of my rose friends who read that it is worth while to grow some roses for Fall. They will pay out handsomely.

—J. Horace McFarland.

Harrisburg, Pa.

Home Garden Cauliflower

HAVING just eaten some cauliflower grown in Memphis, Tenn., by a home gardener without previous experience during an extremely dry and excessively hot Summer, I am led to believe that more people should try to grow this vegetable at home.

Cauliflower has the reputation of being unpredictable. One grower may succeed, another fail. Conditions must be right and the soil rich, according to books. Conditions here were far from favorable and yet dozens of perfect heads developed to refute the saying that cauliflower is finicky. They were firm, white and large.

Seeds were planted in early Spring and seedlings transplanted when the tomatoes were set out. Rain came during early growth but two months of drought followed. The cauliflower rows were watered only once during that period, but that was a night-long soaking. Flowers began to form in October and developed very rapidly. The leaves were drawn up around the heads during the early stages of growth and tied with strings.

To match the feat of producing fine cauliflower, others in the same city raised fine broccoli and Brussels sprouts. All, of course, require similar treatment, as all are members of the cabbage family. The three mentioned are rightfully considered delicacies and all command high prices since they are usually from far-off markets.

—Mary S. Smith.

Bartlett, Tenn.

Courtesy The Oregonian.

The garden of Elmer Young, Eugene, Ore., which was awarded second prize in the National Victory Garden Institute's photograph contest. Mr. Young is seen working in the garden, which measured 60 x 60 feet. A border of flowers gave color and interest to the garden.

New Peony Varieties

THE September issue of the Bulletin of the American Peony Society contains a valuable reference guide to the new peonies. Its compiler, George W. Peyton, has included every variety introduced in the last 15 or 20 years. The list groups the varieties which each introducer has given to the peony world. In addition to the names of the varieties, dates of introduction, rates and brief descriptions are supplied. In most instances, the descriptions are those of the originators.

A glance at these lists will prove that more new peonies are introduced than it is generally supposed. Some 30 pages are required to list those which have come on the market in the past two decades.

Garden Institute Winners

WINNERS in the Victory garden photograph contest conducted by the National Victory Garden Institute, New York, N. Y., have just been announced. The first prize award of $25 went to Michael Conversa of San Jose, Calif. The second prize of $15 was won by Loren H. Milliman of Portland, Ore., and third prize of $10 by C. Foerster of Ithaca, N. Y., who also received several honorable mentions.

Others who received an honorable mention and an award of five dollars are Andrew S. Donnell, Medford, Mass.; Mrs. Alex Hihn, St. Louis, Mo.; Reeves Studios, Atlanta, Ga.; A. J. Aiken, Manhasset, L. I.; S. F. Beverage, Belleville, Ill.; J. A. Edwards, Peoria, Ill.; Mrs. Will Walter White, Washington, D. C.; Donald H. Furman, 142 E. Parkway, Rochester, N. Y.; Sam Bjorkman, Rock Island, Ill.; H. B. Wignall, Bridgeport, Conn.; Park C. Mason, Shrewsbury Township, N. J., and R. S. Hatzell, Larchmont, N. Y.

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Reports on New Vegetables

SEED catalogues are coming earlier than usual, and with more than the customary urge to order now if one would be safe. Even their present stock eliminates seed potatoes, onion sets, and some standard varieties of cabbage. But so long as we can get the Late Flat Dutch, there will be no worry about cabbage in this corner.

Last Summer we tried the Golden Jubilee tomato, and with most pleasing results. It is a good bearer, the fruit is uniformly large, firm, and smooth, and it is charming in combination with the standard reds for salads. As the first fruit turned yellow, we made the mistake of condemning it as on a par with all yellow tomatoes; but when we let the next one fully ripen we began to appreciate its excellent flavor. Among the green tomatoes picked just before the frosts came, none ripened indoors more fully or lasted better than the Golden Jubilee.

The Early Pimento pepper has also come to stay in our home garden. Its graceful heart shape, uniformity in size, and freedom from wrinkles, are all in its favor. Its thick flesh and mild flavor at all stages and especially when fully ripe, make it quite as tasty as the commercial product.

Of course we have tested out the edible soy beans, and have found them easily grown, excellent yielders, and free from insects. But that is a story in itself, not yet half told. Everything, however, depends upon selecting the right variety.

The Fava beans have had a trial, too, although perhaps not really a fair one. It is said that they must be planted early, and the advantage claimed is that they will stand frost. An extremely wet season made early planting of anything in the garden quite impossible. Yet since they require 20 days longer to mature than the Dwarf Horticultural beans, even when given the early planting, why is this frost-proof quality of special advantage?

As to quality, the beans are of large size, resembling the limas but of coarser texture. There are several in a pod and the pods themselves are wonders. They are of such immense size and thickness that, since they are not at any stage of growth edible, one cannot but think that much plant energy and material have been wasted. As a curio this variety is of interest but we have not found it of enough real worth to justify retaining.

—Bessie L. Putnam.

Conneaut Lake, Pa.

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Creosote Injurious to Plants*

Here is an article which may explain failures for which amateur gardeners could find no reason

THE growing scarcity of rot-resisting lumber, such as chestnut and cypress, and its increasing price, may tempt growers of plants to use wood preservatives on inexpensive lumber for flats, bench boards, hotbeds and coldframes. Creosote is probably the most readily available of such preservatives and its record of achievement commends it.

However, such treated wood should not be used in conjunction with growing plants, particularly seedlings. Creosote is a mixture of chemicals, several of which are volatile at high temperatures, giving off fumes which are harmful and even deadly to plants. The results of an investigation of the effects of chemically treated lumber on plant development are so definite in confirming unfortunate and unpublished experiences that the general public should be warned of the hazards involved. The tests were conducted in the Department of Botany of the Massachusetts State College and have been sufficiently checked to warrant certain conclusions.

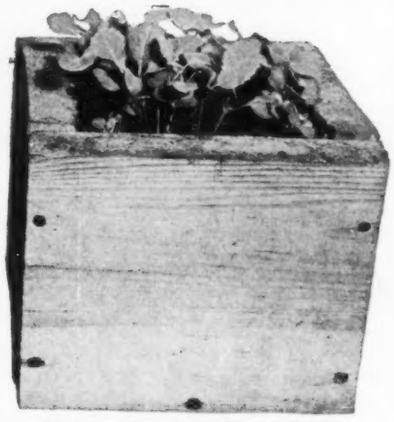
In all probability the toxic agent is air borne and dependent upon a high air temperature, close to 100 degrees Fahrenheit, for volatilization. Poor ventilation, which could frequently occur when a pane of glass is used over a seed flat, or delay in lifting the sash of hotbeds and coldframes, would combine with a high temperature to cause considerable injury and even death to the plants. Since both creosote and illuminating gas are products of coal distillation, it is not surprising that the injury symptoms are similar.

Young tomato plants are used frequently to detect small quantities of illuminating gas because they give a striking response called epinasty, i.e., a downward growth of the midvein giving the leaf a convex shape. The same response is obtained with tomato plants and creosoted lumber. Other discernible responses to both creosote and illuminating gas are the quick maturity of the older leaves and their abscission. Young leaves are not injured and thus injury from illuminating gas or creosote can be differentiated from frost injury, which is severe on the younger leaves.

Possibly the most characteristic and the most general effect of creosote injury is leaf roll, which is a curling upward and inward of the marginal area to the extent that a portion of the original lower surface frequently becomes the upper surface. The

*Contribution No. 490 of the Massachusetts Agricultural Experiment Station.

Cabbage plants in boxes treated with creosote.



Plants started at the same time in untreated boxes.

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cotyledons of seedlings are especially susceptible to this response as exemplified with plants of tomato, tobacco, lettuce and cabbage. The injured cabbage plants in Figure 1 are in a box made of wood treated with creosote at least six months prior to planting. Figure 2 shows plants from untreated boxes. Injury was apparent four days after the plants had emerged from the soil, or one week after the seed was planted. The photographs were taken three weeks after the seeds were planted. These plants were not grown in a coldframe, hotbed, or any chamber with a small amount of air. They were grown in a greenhouse with well-controlled temperature and ventilation.

Creosoted wood completely buried in the soil has failed to cause injury to plants known to be injured by air-borne fumes. However, wherever growing plants are concerned, there is seldom an opportunity to protect lumber by creosote and keep it covered with soil so that it will not be exposed to the action of sun and air currents.

It may be of interest to readers to learn of certain cases where injury to plants has been traced to creosote fumes. Plants have been severely injured or killed where coldframes and sash were treated with creosote. In one instance, a tobacco grower lost most of his seedlings. Another man, a backyard gardener, lost his early plantings of vegetables and flowers.

A report, direct from a grower of tobacco, stated that the lumber for a new tobacco coldframe was painted with creosote in the Autumn and exposed to the weather all Winter. Even this exposure was not sufficient to rid the lumber of the toxic agent.

Fumes from creosoted lumber used in a greenhouse bench are known to have killed potted plants in the next bench. Creosoted lumber, used as supports to benches, has been a source of injury when the heating pipes were close enough to volatilize the creosote. The fact that creosoted wood does not injure the first plantings is no guarantee that the creosote is not dangerous or the plants immune.

Creosoted flats have been used successfully in the Winter and very early Spring, but with the natural rise of temperature and radiant heat effect from the sun in late Spring, serious injury has resulted.

—Linus H. Jones.

Amherst, Mass.

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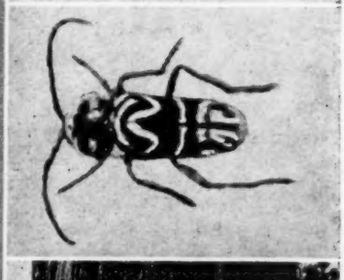
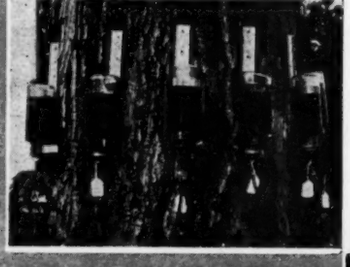
1. Tulip-tree Scale, brown, ¼ inch in diameter, kills branches, and sometimes even large sections of tulip-trees.



2. Sugar-maple Borer, black and golden-yellow, a wrecker of many sugar maples in New England.



3. Bottles containing the antidoting fluid for control of destructive bleeding cancer, especially in Norway maples.

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